

WHAT IS CLAIMED IS:

1. An image information input/output device for executing reading input or printing output of image information comprising:

5 a radio communication module capable of carrying out communication by varying a send-output power to a plurality of mobile radio terminals located away from the image information input/output device through arbitrary distances respectively,

10 a distance calculation module which calculates a distance of each of the mobile radio terminals in the plurality of mobile radio terminals from a send-output power value of the radio communication module which is carrying out communication with each of the mobile
15 radio terminals of the a plurality of mobile radio terminals,

 a mobile radio terminal control module which manages identification information and user information for identify the mobile radio terminals in at least the
20 plurality of mobile radio terminals, and distance and time calculated by the distance calculation module,

 an interval timer which allows the radio communication module to periodically carry out communication with the mobile radio terminals in the a
25 plurality of mobile radio terminals, and allows the distance calculation module to periodically calculate the distance, and

a user judging module which detects that any of the plurality of users approached the image information input/output device based on the distance calculated by the distance calculation module, and which identifies a user who approached the image information input/output device based on identification information which identifies each of the mobile radio terminals of the plurality of mobile radio terminals managed by the mobile radio terminal control module, whenever communication with each of the mobile radio terminals of the plurality of mobile radio terminals is carried out by the radio communication module by the interval timer.

2. An image information input/output device for executing reading input or printing output of image information comprising:

a radio communication module capable of carrying out communication by varying a send-output power to a plurality of mobile radio terminals located away from the image information input/output device through arbitrary distances respectively,

a distance calculation module which calculates a distance of each of the mobile radio terminals in the plurality of mobile radio terminals from a send-output power value of the radio communication module which is carrying out communication with each of the mobile radio terminals of the a plurality of mobile radio

terminals,

a mobile radio terminal control module which manages identification information and user information for identify the mobile radio terminals in at least the plurality of mobile radio terminals, and distance and time calculated by the distance calculation module,

an interval timer which allows the radio communication module to periodically carry out communication with the mobile radio terminals in the a plurality of mobile radio terminals, and allowing the distance calculation module to periodically calculate the distance,

a user set memory which stores settings and operation screens customized by a plurality of users,

a user judging module which detects that any of the plurality of users approached the image information input/output device based on the distance calculated by the distance calculation module, and which identifies a user who approached the image information input/output device based on identification information which identifies each of the mobile radio terminals of the plurality of mobile radio terminals managed by the mobile radio terminal control module, whenever communication with each of the mobile radio terminals of the plurality of mobile radio terminals is carried out by the radio communication module, and

a display which reads and displays the setting and

the operation screen customized by the user from the user set memory for switching to the setting and the operation screen customized by the user specified by the user judging module.

5 3. An image information input/output device according to claim 2, wherein when a plurality of users are specified by the user judging module and the switching of the setting and the operation screen customized by the user to be displayed can not be
10 specified, the display displays a plurality of judged candidates on the screen, and if a user designates, the user setting can be switched.

 4. A control method of an image information input/output device for executing reading input or
15 printing output of image information comprising the steps of:

 carrying out communication by varying a send-output power to a plurality of mobile radio terminals located away from the image information input/output
20 device through arbitrary distances respectively,

 calculating a distance of each of the mobile radio terminals in the plurality of mobile radio terminals from a send-output power value of the radio communication module which is carrying out
25 communication with each of the mobile radio terminals of the a plurality of mobile radio terminals,

 managing identification information and user

information for identify the mobile radio terminals in at least the plurality of mobile radio terminals, and calculated distance and time,

periodically carrying out communication with each
5 of the mobile radio terminals of the plurality of mobile radio terminals and calculating the distance,

detecting that any of the plurality of users approached the image information input/output device based on the calculated distance, and for identifying a
10 user who approached the image information input/output device based on identification information which identifies each of the mobile radio terminals of the managed plurality of mobile radio terminals, whenever communication with each of the mobile radio terminals
15 of the plurality of mobile radio terminals is carried out by the radio communication module.

5. A control method of an image information input/output device for executing reading input or printing output of image information comprising the
20 steps of:

carrying out communication by varying a send-output power to a plurality of mobile radio terminals located away from the image information input/output device through arbitrary distances respectively,

25 calculating a distance of each of the mobile radio terminals in the plurality of mobile radio terminals from a send-output power value of the radio

communication module which is carrying out
communication with each of the mobile radio terminals
of the a plurality of mobile radio terminals,

managing identification information and user
5 information for identify the mobile radio terminals in
at least the plurality of mobile radio terminals, and
calculated distance and time,

periodically carrying out communication with each
of the mobile radio terminals of the plurality of
10 mobile radio terminals and calculating the distance,

previously storing settings and operation screens
respectively customized by the plurality of users,

detecting that any of the plurality of users
approached the image information input/output device
15 based on the calculated distance, and for identifying a
user who approached the image information input/output
device based on identification information which
identifies each of the mobile radio terminals of the
managed plurality of mobile radio terminals, whenever
20 communication with each of the mobile radio terminals
of the plurality of mobile radio terminals is carried
out by the radio communication module, and

reading and displaying the setting and the
operation screen customized by the user for switching
25 to the setting and the operation screen customized by
the user specified by the user judging module.

6. A control method of an image information

input/output device according to claim 5, wherein when a plurality of users are specified by the user judging module and the switching of the setting and the operation screen customized by the user to be displayed can not be specified, a plurality of judged candidates are displayed on the screen, and if a user designates, the user setting can be switched.

7. An image information input/output device for executing reading input or printing output of image information comprising:

a radio communication module capable of carrying out communication by varying a send-output power to a plurality of mobile radio terminals located away from the image information input/output device through arbitrary distances respectively,

a distance calculation module which calculates a distance of each of the mobile radio terminals in the plurality of mobile radio terminals from a send-output power value of the radio communication module which is carrying out communication with each of the mobile radio terminals of the a plurality of mobile radio terminals,

a mobile radio terminal control module which manages identification information and user information for identify the mobile radio terminals in at least the plurality of mobile radio terminals, and distance and time calculated by the distance calculation module,

an interval timer which allows the radio communication module to periodically carry out communication with the mobile radio terminals in the a plurality of mobile radio terminals, and allowing the distance calculation module to periodically calculate the distance,

a client terminal control module which manages identification information and user specifying at least the client terminal device,

a user judging module which detects that any of the plurality of users approached the image information input/output device based on the distance calculated by the distance calculation module, and which identifies a user who approached the image information input/output device based on identification information which identifies each of the mobile radio terminals of the plurality of mobile radio terminals managed by the mobile radio terminal control module, whenever communication with each of the mobile radio terminals of the plurality of mobile radio terminals is carried out by the radio communication module, and

a control module which automatically starts the printing operation when a user specified by the user judging module requested the private printing.

8. A control method of an image information input/output device for executing reading input or printing output of image information comprising the

steps of:

carrying out communication by varying a send-
output power to a plurality of mobile radio terminals
located away from the image information input/output
5 device through arbitrary distances respectively,
calculating a distance of each of the mobile radio
terminals in the plurality of mobile radio terminals
from a send-output power value of the radio
communication module which is carrying out
10 communication with each of the mobile radio terminals
of the a plurality of mobile radio terminals,
managing identification information and user
information for identify the mobile radio terminals in
at least the plurality of mobile radio terminals, and
15 calculated distance and time,
periodically carrying out communication with each
of the mobile radio terminals of the plurality of
mobile radio terminals and calculating the distance,
managing identification information and user
20 specifying at least the client terminal device,
detecting that any of the plurality of users
approached the image information input/output device
based on the calculated distance, and for identifying a
user who approached the image information input/output
25 device based on identification information which
identifies each of the mobile radio terminals of the
managed plurality of mobile radio terminals, whenever

communication with each of the mobile radio terminals of the plurality of mobile radio terminals is carried out by the radio communication module, and

5 automatically starting the printing operation when a specified user requested the private printing.

9. An image information input/output device for executing reading input or printing output of image information comprising:

10 a radio communication module capable of carrying out communication by varying a send-output power to a plurality of mobile radio terminals located away from the image information input/output device through arbitrary distances respectively,

15 a distance calculation module which calculates a distance of each of the mobile radio terminals in the plurality of mobile radio terminals from a send-output power value of the radio communication module which is carrying out communication with each of the mobile radio terminals of the a plurality of mobile radio
20 terminals,

a mobile radio terminal control module which manages identification information and user information for identify the mobile radio terminals in at least the plurality of mobile radio terminals, and distance and
25 time calculated by the distance calculation module,

an interval timer which allows the radio communication module to periodically carry out

communication with the mobile radio terminals in the a plurality of mobile radio terminals, and allowing the distance calculation module to periodically calculate the distance,

5 a client terminal control module which manages identification information and user specifying each of client terminal devices in at least a plurality of client terminal devices,

10 a notifying module which informs a client terminal device of a fact that a print job requested by that client terminal device in the plurality of client terminal devices has been completed, and which periodically sends a receipt requesting notification until a print original draft is received,

15 a user judging module which detects that any of the plurality of users approached the image information input/output device based on the distance calculated by the distance calculation module, and which judges that a user who is sending a receipt requesting notification
20 approached the image information input/output device based on identification information which identifies each of the mobile radio terminals of the plurality of mobile radio terminals managed by the mobile radio terminal control module, whenever communication with
25 each of the mobile radio terminals of the plurality of mobile radio terminals is carried out by the radio communication by the interval timer, and

5 a control module which detects that a distance from a user who is sending the receipt requesting notification judged by the user judging module became shortest, and judges that the user received the print original draft and completes the receipt requesting notification.

10 10. A control method of an image information input/output device for executing reading input or printing output of image information comprising the steps of:

carrying out communication by varying a send-output power to a plurality of mobile radio terminals located away from the image information input/output device through arbitrary distances respectively,

15 calculating a distance of each of the mobile radio terminals in the plurality of mobile radio terminals from a send-output power value of the radio communication module which is carrying out communication with each of the mobile radio terminals of the a plurality of mobile radio terminals,

20 managing identification information and user information for identify the mobile radio terminals in at least the plurality of mobile radio terminals, and calculated distance and time,

25 periodically carrying out communication with each of the mobile radio terminals of the plurality of mobile radio terminals and calculating the distance,

managing identification information and user which specify each of client terminal devices in at least a plurality of client terminal devices,

5 informing a client terminal device of a fact that a print job requested from that client terminal device in the plurality of client terminal devices, and periodically sending a receipt requesting notice until a print original draft is received,

10 detecting that any of the plurality of users approached the image information input/output device based on the calculated distance, and for judging that a user who is sending the receipt requesting notice approached the image information input/output device based on identification information which identifies
15 each of the mobile radio terminals of the managed plurality of mobile radio terminals, whenever communication with each of the mobile radio terminals of the plurality of mobile radio terminals is carried out by the radio communication module, and

20 detecting that a distance from a user who is sending the receipt requesting notification judged by the user judging module became shortest, and judging that the user received the print original draft and completing the receipt requesting notification.

25 11. An input/output device controlling system using a short distance radio communication as notifying means, comprising:

a capable-of-notifying client terminal finding module which finds a client terminal that can notify a communication target device when the communication target device does not exist in a communication-possible range with a device to be notified, and

an indirect-notification module which transmits a notification destination, a notification method, notification contents and the like to a client terminal device which can be notified and which was found out by the capable-of-notifying client terminal finding module, thereby making it possible to send the notification to the communication target device.

12. An input/output device controlling system according to claim 11, further comprising a communication processing restarting module in which when the communication target device does not exist in the communication-possible range of all of the client terminals, the communication processing is placed on hold, and when it is detected that the communication target device exists within the communication-possible range, the communication processing is restarted.

13. An input/output device controlling system according to claim 12, wherein when an urgent degree of communication contents such as failure, error and the like is high, the notification is not placed on hold, and notification can be sent to a mobile telephone possessed by the user to be notified using public lines.

14. An input/output device controlling system according to claim 13, further comprising a detecting module which detects whether any procedure has been taken for the notified failure, error and the like when
5 the urgent degree of the communication contents such as failure, error and the like is high, wherein

after a predetermined time has been elapsed, if no procedure was not taken to the failure, error and the like, a communication range is widened to a requester
10 who was not notified and exists in a processing request waiting table, whenever the notification is repeated, its range is widened.

15. A control method of an input/output device controlling system using a short distance radio
15 communication as notifying means comprising the steps of:

finding out a client terminal which can notify a communication target device when the communication target device does not exist in a communication-
20 possible range of a device to which the communication target device desires to notify, and

transmitting a notification destination, a notification method, notification contents and the like of the communication target device to a client terminal
25 device which can be notified and which was found out, thereby making it possible to send the notification to the communication target device.

16. A control method of an input/output device
controlling system according to claim 15, further
comprising restating the communication processing, when
the communication target device does not exist in the
communication-possible range of all of the client
terminals, the communication processing is placed on
hold, and when it is detected that the communication
target device exists within the communication-possible
range.

17. A control method of an input/output device
controlling system according to claim 16, further
comprising capable of carrying out notification by
using a mobile telephone possessed by the user to be
notified using public lines, when an urgent degree
of communication contents such as failure, error and
the like is high, the notification is not placed on
hold.

18. A control method of an input/output device
controlling system according to claim 17, further
comprising detecting whether any procedure has been
taken for the notified failure, error and the like when
the urgent degree of the communication contents such as
failure, error and the like is high,

winding a communication range to a requester who
was not notified and exists in a processing request
waiting table, whenever the notification is repeated,
its range is widened, after a predetermined time has

been elapsed, if no procedure was not taken to the failure, error and the like.